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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,423	11/21/2003	Eric R. Hansen	204560-73806	3387

7590 02/08/2006

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EXAMINER

LU, JIPING

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/719,423		HANSEN ET AL.	
	Examiner		Art Unit	
	Jiping Lu		3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29, 31-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-29 and 31-34 are now in the case and remain rejected as follows.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 14, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Iken et al (U. S. Pat. 3,488,700).

Iken shows a method of operating a mineral process kiln 1 having inclined rotary kiln. Combustion air and fuel 4 is introduced at the lower end of the rotary kiln (insufficient for complete combustion or at sub-stoichiometric combustion condition). Additional or enriched combustion air 5-7 is introduced (at 9) into the kiln 1 (through the end wall not numbered between numerals 4 and 6), between the upper and lower ends of the kiln for complete combustion or excess air combustion or super-stoichiometric combustion same as the applicant's.

4. Claims 19, 21, 23-28, 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Bravold (U.S.Pat. 3,584,850).

Brandvold shows a mineral lime (CaO) processing inclined rotary kiln 12 with a lower combustion air end 14b and an upper material feed end 14a, 18, 20d. An air inlet opening 24e is located between two ends. A preheater or precalcining assembly 38, 40, 20, 20b-20d, (incoming mineral passes inlet chute 20d and is directly or indirectly preheated by the exiting hot flue gas

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44 in vessel 22, 38) is positioned proximate to the upper end 18. The preheating or precalcining assembly has a stationary vessel 22, 38, 40 through which the mineral passes prior to advancement into the rotary vessel 12. The kiln existing hot flue gas stream passes in contact with the mineral subsequent to advancement out of the rotary vessel. A stationary hood 14k is positioned proximate to the combustion air inlet lower end 14b and a burner 16a is proximate to the combustion air inlet lower end 14b. For claim 31, a mineral feed assembly 22a is operable to heat lime mineral and thereafter advance the lime mineral into the upper end of the rotary vessel 18. It is noted that the incoming mineral passes inlet chute 20d and is indirectly heated by the exiting hot flue gas 28 in vessel 22a.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-13, 15-17, 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iken et al (U. S. Pat. 3,488,700) in view of Brandvold (U. S. Pat. 3,584,850)

Iken shows a method of operating a mineral process kiln having inclined rotary kiln. Combustion air and fuel is introduced at the lower end of the rotary kiln (insufficient for complete combustion or at sub-stoichiometric combustion condition). Additional combustion air 7 is introduced (at 9) into the kiln between the upper and lower ends of the kiln for complete combustion or excess air combustion or super-stoichiometric combustion same as the applicant's. Brandvold shows a mineral lime (CaO) processing inclined rotary kiln 12 with a lower combustion air end 14b and an upper material feed end 14a, 18, 20d. A combustion air

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inlet opening 24e is located between two ends. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the rotary kiln 1 of Iken with a secondary combustion air or excessive combustion air supply on the wall of the kiln 1 between two kiln ends as taught by Brandvold in order to provide more direct supply of excessive combustion air. With regard to claimed numerical ranges of the combustion air mass flow rate, it would have been an obvious matter of design choice to supply the combustion air at any desired mass flow rate in order to obtain the optimum result since applicant has not disclosed that the claimed combustion air mass flow rate range solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill in the art .

7. Claims 19, 21-28, 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tutt et al (U. S. Pat. 5,375,535) in view of Herchenbach et al (U.S. Pat. 4,329,180).

Tutt shows a mineral lime (CaO) processing inclined rotary kiln 16 with a lower combustion air end 36 and an upper material feed end 12, 20. An air inlet opening 56-60 is located between two ends. A preheater or precalcining assembly (at 20, 22 by indirect heat exchange between hot flue gas 40 and incoming mineral 20) is positioned proximate to the upper end 16 prior to the rotary vessel 24, 28. A stationary hood 32 is positioned proximate to the combustion air inlet lower end 28 and a burner 33 is proximate to the combustion air inlet lower end 34. For claim 31, a mineral feed assembly 20 is operable to heat lime mineral and thereafter advance the lime mineral into the upper end of the rotary vessel 16, 24. It is noted that the incoming mineral 20 passes inlet chute 12 and is indirectly heated by the exiting hot flue gas 40, 42, 22 which serves the same function as claimed , e.g. recovery of waste heat common and well

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known in the art. However, Tutt does not show a preheater or precalcining assembly with direct heat exchange for waste heat recovery. Herchenbach et al show a preheater or precalcining assembly 18-29 with direct heat exchange for waste heat recovery. The preheating or precalcining assembly 18-29 has a stationary vessel 19 through which the mineral passes prior to advancement into the rotary vessel 10. The kiln existing hot flue gas stream (at 16) passes in contact with the mineral subsequent to advancement out of the rotary vessel 10. This is a well known in the art to use direct heat exchange relationship. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the preheating or precalcining assembly 18-29 with direct heat exchanger of Herchenbach et al for the preheater or precalcining assembly 20, 22 of Tutt in order to obtain a more efficient waste heat recovery. With regard to claimed numerical ranges of the combustion air mass flow rate, it would have been an obvious matter of design choice to supply the combustion air at any desired mass flow rate in order to obtain the optimum result since applicant has not disclosed that the claimed combustion air mass flow rate range solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill in the art.

8. Claims 1-18, 20, 22, 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandvold (U.S.Pat. 3,584,850) in view of Baukal, Jr. et al. (U. S. Pat. 5,413,476).

Brandvold shows a mineral lime (CaO) processing inclined rotary kiln 12 with a lower combustion air end 14b and an upper material feed end 14a, 18, 20d. An air inlet opening 24e is located between two ends. A preheater or precalcining assembly 38, 40 (incoming mineral passes inlet chute 20d and is directly preheated by the exiting hot flue gas 44 in vessel 38) is positioned proximate to the upper end 18. The preheating or precalcining assembly has a

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stationary vessel 38, 40 through which the mineral passes prior to advancement into the rotary vessel. The kiln existing hot flue gas stream passes in contact with the mineral subsequent to advancement out of the rotary vessel. A stationary hood 14k is positioned proximate to the combustion air inlet lower end 14b and a burner 16a is proximate to the combustion air inlet lower end 14b. Baukal illustrated the importance and the desire to have two stage combustions, e.g. sub-stoichiometric and super-stoichiometric combustion in order to maximize the efficiency fuel efficiency and reduce pollutants. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to operate kiln of Bravold with the combustion rate at sub-stoichiometric ratio at the lower end and super-stoichiometric at the upper end as taught by Baukal in order to obtain a complete combustion for clean air exhaust. This is well known practice in the combustion art. With regard to claimed numerical ranges of the combustion air mass flow rate, it would have been an obvious matter of design choice to supply the combustion air at any desired mass flow rate in order to obtain the optimum result since applicant has not disclosed that the claimed combustion air mass flow rate range solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill in the art .

9. Claims 1-29 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tutt et al (U. S. Pat. 5,375,535) in view of Baukal, Jr. et al. (U. S. Pat. 5,413,476).

Tutt shows a mineral lime (CaO) processing inclined rotary kiln 16, 24 with a lower combustion air end 30 and an upper material feed end 12, 20. An air inlet opening 56-60 is located between two ends. A preheater or precalcining assembly (at 20, 22) is positioned at the upper end 24. A stationary hood 32 is positioned proximate to the combustion air inlet lower end

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36 and a burner 33 is proximate to the combustion air inlet lower end 36. Baukal illustrated the importance and the desire to have two stage combustion, e.g. sub-stoichiometric and super-stoichiometric combustion in order to maximize the efficiency fuel efficiency and reduce pollutants. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to operate kiln of Tutt et al. with the combustion rate at sub-stoichiometric ratio at the lower end and super-stoichiometric at the upper end as taught by Baukal in order to obtain a complete combustion for clean air exhaust. This is well known practice in the combustion art. With regard to claimed numerical ranges of the combustion air mass flow rate, it would have been an obvious matter of design choice to supply the combustion air at any desired mass flow rate in order to obtain the optimum result since applicant has not disclosed that the claimed combustion air mass flow rate range solves any stated problem in a new or unexpected way or is for any particular purpose which is unobvious to one of ordinary skill in the art .

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-29 and 31-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-52 of U.S. Patent No. 6,672,865.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims differ in scope only as to obvious variants such as combustion air and combustible fuel ratio and additional combustion air location. The scope of patent claims 1-52 covers the currently presented broad claims 1-29, 31-34. For example, current broad claim 1 is met by the patent claims 40 and 42. The sub-stoichiometric combustion will occur when the combustion air is controlled under 10% as claimed in patent claims 1- 42. As for another example, current broad claim 3 is met by the patent claim 47. The sub-stoichiometric combustion will occur when the combustion air is controlled under 7% as claimed in patent claim 47. It is urged that the applicant to diagram the patent claims and compare with the current broad claims. Such comparison will show that the scope of patent claims 1-52 indeed covers the currently presented broad claims 1-29, 31-34.

Response to Arguments

12. Applicant's arguments filed 11/15/2005 have been fully considered but they are not persuasive to overcome the rejection. Broad claims presented fail to define over the prior art references. The examiner requests the applicant to point out from the claims exactly which element that the references do not show or teach. Each and every element claimed is merely a well known feature in the combustion art. On page 2 of the Remarks, the applicant argued that the patent to Iken (US Pat. 3488700) does not show the second quantity of combustion air 7, 9 introduced into the rotary kiln 1. The applicant further argued that the second quantity of

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combustion air 7, 9 was introduced from outside of the rotary kiln. The examiner disagrees with the applicant's because the additional quantity of combustion air 7 is introduced (at 9) into the kiln 1 (through the end wall of the rotary kiln 1, not numbered between numerals 4 and 6), between the upper and lower ends of the kiln for complete combustion or excess air combustion or super-stoichiometric combustion same as the applicant's. Moreover, the second quantity of combustion air does indeed make contact with the interior wall (at 3) of the rotary kiln between the upper and lower ends of the rotary kiln 1 (see the angle from by air streams 7, 9). The bottom of page 2 of the Remarks, the applicant also argued that the Iken patent '700 does not mention anything about combustion excessive air or deficient air supplies. The examiner also disagrees because the structure of the combustion air supplies 4-7 is capable of forming deficient combustion air (at 4) and excessive combustion air (at 5-7). Such excessive combustion air or air enriched supply 5-7 was clearly taught by Iken (see col.2, lines 60-72). The applicant argued that the examiner has taken an unreasonable interpretation regarding the 35 USC 102 rejection under Brandvold U. S. Pat. 3584850. The examiner disagrees because the applicant always has the right to amend the claims to structurally define over the prior art references. Moreover, the term regarding "preheating/precalciner assembly" is well known in the art. The claimed "preheating/precalciner assembly" is nothing but a cyclone separator and a separate calciner connected in series as shown in the current application as Figs. 17-20. The applicant is invited to add these structural features in the claims rather than rely on the broad claim language "preheating/precalciner assembly". In view of the broad claims presented, the examiner must given each word in the claims with its broadest reasonable interpretation which is consistent to the specification. On page 4 of the Remark, the applicant also argued that the Brandvold patent

does not show air inlet opening 24e between the upper and lower ends of the rotary kiln. However, Figs. 1 and 4 show such conventional feature. The applicant kept arguing that there is no "preheater or precalcining assembly" in the Brandvold patent. The examiner disagrees because the broad claims fail to structurally define what the "preheater or precalcining assembly" is, e.g. cyclone separator. Therefore, the examiner applies and interprets the broadly claimed terms as any assembly that preheats, such as the preheater or precalcining assembly 38, 40, 20, 20b-20d of Brandvold patent. The preheating is conducted by incoming mineral passes inlet chute 20d and directly or indirectly preheated by the exiting hot flue gas 44 in vessel 22, 40, 20 38. The applicant also argued that the examiner has improperly picked and chosen various elements from Brandvold patent against the broad claims presented. This line of argument is not persuasive because the applicant has absolute right to amend the broad claims in order to structurally define the prior art references. Again, each and every claimed element in the broad claims has been shown by the Brandvold patent, then, the 35 USC 102 rejection must be maintained. On page 5 of the Remarks, regarding claims 31-33, the applicant argued that the examiner's rejection under Brandvold patent is not supported by the art. The examiner disagrees because the mineral feed assembly 22a, 20d is operable to heat incoming lime mineral by existing hot exhaust gases thru heat conduction and radiation. On pages 5-8 of the Remarks, the applicant argued the 35 USC 103 rejection is improper for lack of teaching and motivation. The examiner disagrees. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the

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knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the patent to Iken shows a method of operating a mineral process kiln having inclined rotary kiln. Combustion air and fuel 4 and enriched additional air or oxygen is supplied 5-7 for complete combustion between the ends of the rotary kiln. Brandvold shows a mineral lime (CaO) processing inclined rotary kiln 12 with a lower combustion air end 14b and an upper material feed end 14a, 18, 20d. A combustion air inlet opening 24e is located between two ends. Therefore, in view of the combined teachings of the references for one skilled in the art, it would have been obvious to provide the rotary kiln 1 of Iken with a secondary combustion air or excessive combustion air supply on the wall of the kiln 1 between two kiln ends as taught by Brandvold in order to provide more direct supply of excessive combustion air for a complete combustion. On pages 8-10 of the Remarks, the applicant argued the 35 USC 103 rejection under Tutt and Herchenbach is improper for lack of teaching and motivation. The examiner disagrees. The patent to Tutt shows a mineral lime (CaO) processing inclined rotary kiln 16, a lower combustion air end 36, an upper material feed end 12, 20, an air inlet opening 56-60 between two ends, a preheater or precalcining assembly positioned proximate to the upper end 16, a stationary hood 32 positioned proximate to the combustion air inlet lower end 28 and a burner 33 proximate to the combustion air inlet lower end 34 which arranged in the same manner as broadly claimed. The patent to Herchenbach et al shows a preheater or precalcining assembly 18-29 with direct heat exchange for waste heat recovery. The preheating or precalcining assembly 18-29 has a stationary vessel 19 through which the mineral passes prior to advancement into the rotary vessel 10. The kiln existing hot flue gas stream (at 16) passes in

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contact with the mineral subsequent to advancement out of the rotary vessel 10. This is a well known in the art to use direct heat exchange relationship. Therefore, in view of the combined teachings of the references for one skilled in the art, it would have been obvious to substitute the preheating or precalcining assembly 18-29 with direct heat exchanger of Herchbench et al for the preheater or precalcining assembly 20, 22 of Tutt in order to obtain a more efficient waste heat recovery. On pages 10-13 of the Remarks, the applicant argued the 35 USC 103 rejection under Brandvold and Baukel is improper for lack of teaching and motivation. The examiner disagrees. Brandvold patent shows a mineral lime (CaO) processing inclined rotary kiln 12, a lower combustion air end 14b, an upper material feed end 14a, 18, 20d, an air inlet opening 24e located between two ends, a preheater or precalcining assembly 38, 40 positioned proximate to the upper end 18, a preheating or precalcining assembly with a stationary vessel 38, 40 which are arranged in the same manner as broadly claimed. Baukal illustrated the importance and the desire to have two stage combustions, e.g. sub-stoichiometric and super-stoichiometric combustion in order to maximize the efficiency fuel efficiency and reduce pollutants. Therefore, in view of the combined teachings of the references for one skilled in the art, it would have been obvious to operate kiln of Brandvold with the combustion rate at sub-stoichmetric ratio at the lower end and super-stoichmetric at the upper end as taught by Baukal in order to obtain a complete combustion for clean air exhaust. This is well known practice in the combustion art. On pages 13-14 of the Remarks, the applicant argued the 35 USC 103 rejection under Tutt and Baukel is improper for lack of teaching and motivation. The examiner disagrees. Tutt patent shows a mineral lime (CaO) processing inclined rotary kiln 16, 24, a lower combustion air end 30, an upper material feed end 12, 20, an air inlet opening 56-60 located between two ends, a preheater or precalcining

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assembly (at 20, 22) positioned at the upper end 24 with a stationary hood 32 positioned proximate to the combustion air inlet lower end 36 and a burner 33 is proximate to the combustion air inlet lower end 36 which are arranged in the same manner as broadly claimed. Baukal illustrated the importance and the desire to have two stage combustions, e.g. sub-stoichiometric and super-stoichiometric combustions in order to maximize the efficiency fuel efficiency and reduce pollutants. Therefore, in view of the combined teachings of the references for one skilled in the art, it would have been obvious to operate kiln of Tutt et al. with the combustion rate at sub-stoichiometric ratio at the lower end and super-stoichiometric at the upper end as taught by Baukal in order to obtain a complete combustion for clean air exhaust. This is well known practice in the combustion art. With regard to claimed numerical ranges of the combustion air mass flow rate, since the applicant failed to rebut the examiner's assertion of obvious matter of design choice, then, it is treated to be an admission by the applicant. Finally, with regard to the double patenting rejection, although the conflicting claims are not identical, they are not patentably distinct from each other because the claims differ in scope only as to obvious variants such as combustion air and combustible fuel ratio and additional combustion air location. it is urged that the applicant to prove a terminal disclaimer in order to overcome the obviousness-type double patenting rejection.

Conclusion

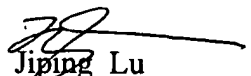
13. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EHUD GARTENBERG can be reached on 571 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jiping Lu
Primary Examiner
Art Unit 3749